

REMARKS

In accordance with the foregoing, the specification, and claims 1, 6, 9, 21, 24, 28 and 29 have been amended. Claims 1-32 are pending.

Initially, Applicant acknowledges with appreciation the indication that claims 5-12, 14-16, 20-27 and 29-31 were indicated as containing patentable subject matter and would be allowed if rewritten in independent form to include all of the features of their base claims and any intervening claims.

Applicant has rewritten claim 29 in independent form, and thus claim 29 is believed in allowable form.

No new matter is believed to have been added.

ITEM 1: OBJECTION TO THE PRELIMINARY AMENDMENT FILED ON 2/4/04 AND THE SPECIFICATION EQUATIONS 4 AND 5.

Please find transmitted herewith a copy of the Preliminary Amendment as filed on 2/4/04 with handwritten page numbers in the lower margin. No new matter is believed to have been added.

In view of the above, it is respectfully submitted that the objection to the Preliminary Amendment filed on February 4, 2004 is overcome.

ITEM 2: OBJECTION TO CLAIMS 9 - 10 AND 24 - 25 LISTING THE SAME EQUATION WITH TWO DIFFERENT LABELS.

Claims 9 and 24 have been amended to correct a typographical error with respect to the equation of the focus error. Additionally, paragraph [0038] was amended to correct the same error.

In view of the above, it is respectfully submitted that the objection is overcome.

ITEMS 3-4: REJECTION OF CLAIMS 1-2 UNDER 35 USC§102(e) AS BEING ANTICIPATED BY SUGIURA ET AL. (US PAT. NO. 6,185,176, "SUGIURA").

Claim 1, as amended, recites " An apparatus for recording and/or reproducing data on and/or from various types of optical disks, comprising: a first laser diode emitting a first laser beam; a second laser diode emitting a second laser beam; a diffraction grating splitting the first and the second laser beams into a main ray and sub rays according to movement of the diffraction grating between a first position and a second position along an optical axis;

and a photo-detector having at least a first detecting portion for **receiving the main ray of the first laser beam at a first location based on the first position of the diffraction grating and a second detecting portion, which is positioned at a different location based on the second position of the diffraction grating, for receiving the main ray of the second laser beam**, wherein the first and the second laser diodes are formed in one package.

In view of the above, it is respectfully submitted that claim 1, as amended, is not anticipated by Sugiura.

ITEMS 5-7: REJECTION OF CLAIMS 3, 18 AND 28 UNDER 35 USC 102(e) AS BEING ANTICIPATED BY OHYAMA (US PAT. NO. 6,366,548, "OHYAMA").

Ohyama teaches an optical pickup having first and second laser sources with corresponding first and second diffraction gratings passing the reflections of the first and second laser sources to either a first pair of light receiving regions or a second pair of light receiving regions, respectively. (see Ohyama Abstract and col. 8 lines 35-48).

In contrast, claim 3 recites, "a first laser diode emitting a first laser beam to a first optical disk; a second laser diode emitting a second laser beam to a second optical disk; a diffraction grating selectively splitting the first and the second laser beams into three rays depending on which optical disk is to be accessed, wherein the three rays comprise a main ray and two sub-rays; and a photo-detector selectively **receiving the three rays of the first laser beam and the three rays of the second laser beam at different detecting portions** for data recording and/or reproduction and error detection and compensation, **wherein the detecting portions comprise a central detecting portion and two peripheral detecting portions.**" (Emphasis added).

The Action alleges that Ohyama shows the emphasized portions of claim 3 in figures 4, 5A and 5b and the corresponding portion of the specification of Ohyama. See Action at page 5. However, Ohyama does not teach or suggest, as recited in claim 3 that the first laser beam and the second laser beam are split into three rays and then received at different detecting portions comprising a central detecting portion and two peripheral detecting portions; rather, Ohyama teaches that the plus and minus primary order diffracted beams are received by a pair of light receiving regions. (See Ohyama col. 8, lines 35-48). The Action equates the three lines in 4a of FIG. 4 in Ohyama as showing a central portion and two peripheral detecting portions; however, the light receiving device 4a only receives either the plus or minus first order diffracted beam and not the "three rays" recited in claim 3. Further, the first and second diffraction gratings 13 and

14 in Ohyama operate to remove the zero order beam and then direct only the plus and minus primary order beams to the inner and outer pairs of light receiving regions, respectively. (see Ohyama col. 8, lines 35-64 and Figs. 5A and 5B).

Claim 18 similarly recites, "selectively receiving the three rays of the first laser beam and the three rays of the second laser beam at different detecting portions for the data recording and/or reproducing and error detection and compensation, wherein the detecting portions comprise a central detecting portion and two peripheral detecting portions," and is believed allowable for the same reasons outlined above with respect to claim 3.

Claim 28 similarly recites, "selectively receiving the three rays of the first laser beam and the three rays of the second laser beam at different detecting portions to record and/or reproduce the data and to detect and compensate for errors, wherein the detecting portions comprise a central detecting portion and two peripheral detecting portions," and is believed allowable for the same reasons as outlined above with respect to claim 3.

In view of the above, it is respectfully submitted that the rejection of claims 3, 18 and 28 is overcome.

ITEMS 8-11: REJECTION OF CLAIMS 4, 13 AND 19 UNDER 35 USC 103(a) AS BEING UNPATENTABLE OVER OHYAMA (US PAT. NO. 6,366,548, "OHYAMA") IN VIEW OF NODA ET AL. (US PAT. NO. 5,153,863, "NODA").

Applicants respectfully traverse the Examiner's 103 rejection, as a prima facie case of obviousness has not been properly established. (MPEP §2142).

With respect to claim 4, as discussed above in the arguments for allowance of claim 3, Ohyama does not teach or suggest a compatible disk player comprising "a first laser diode emitting a first laser beam to a first optical disk; a second laser diode emitting a second laser beam to a second optical disk; a diffraction grating selectively splitting the first and the second laser beams into three rays depending on which optical disk is to be accessed, wherein the three rays comprise a main ray and two sub-rays; and a photo-detector selectively receiving the three rays of the first laser beam and the three rays of the second laser beam at different detecting portions for data recording and/or reproduction and error detection and compensation, wherein the detecting portions comprise a central detecting portion and two peripheral detecting portions," as recited in claim 3. Noda does not cure the defects of Ohyama, because Noda discusses a single light source optical pickup and combining Ohyama with the detector of Noda

would require a substantial redesign. As noted above, Ohyama uses diffraction gratings to transmit the wave length corresponding to the disc and use a pair of light receiving devices to then process the plus and minus primary order diffracted light. (See Ohyama col. 9, lines 24-49).

In light of the foregoing, it is respectfully submitted that the combination of Ohyama in view of Noda fails to teach or suggest each of the limitations of claim 4. Therefore, claim 4 is allowable at least based on its dependency, directly, from allowable claim 3.

With respect to claim 13, since Ohyama discusses an optical pickup using two light sources and an inner and outer pair of light receiving devices and Noda discusses an optical pickup for a single light source these systems cannot be readily combined. Further, no motivation for such a combination, assuming it was feasible, can be found in either Ohyama or Noda. The Action alleges that such motivation is that the photodetector arrangement of Noda "has a standardized electronic circuit to obtained recorded signals with its servo components at the same time." (See Action at page 8). However, Ohyama already has a circuit designed to process the plus and minus first order signals corresponding to the diffracted light received on a pair of light receiving devices. Absent some motivation found in either Ohyama or Noda, there would be no reason to modify Ohyama in the manner suggested.

Thus, Ohyama and Noda do not teach or suggest a compatible optical disk player comprising "a diffraction grating selectively splitting the first and the second laser beams into a main ray and two sub-rays depending on which optical disk is to be accessed; a beam splitter selectively reflecting the first laser beam toward the first optical disk and the second laser beam toward the second optical disk; an objective lens selectively focusing the first laser beam on a recording surface of the first optical disk and the second laser beam on a recording surface of the second optical disk; and a photo-detector selectively receiving the three rays of the first laser beam and the three rays of the second laser beam at different detecting portions to record and/or reproduce the data and to detect and compensate for errors, wherein the photo-detector is a six-split photo-detector comprising four cells on a central detecting portion and two cells on peripheral detecting portions," as recited in claim 13.

Claim 19 is believed allowable for the same reasons as discussed above with respect to the arguments for allowance of claim 13. Applicant notes that claim 29 was indicated as being allowable in item 15 of the Action and is indicated as rejected for the same reasons as claim 19 in item 11 but not in item 9. Applicant believes claim 29 is allowable over the references of Ohyama in view of Noda for at least the same reasons as discussed above with respect to the

arguments for allowance of claim 13 and claim 28.

In view of the above, it is respectfully submitted that since prima facie obviousness has not been established, the rejection is overcome and claims 4, 13 and 19 should be allowed.

ITEMS 12-13: REJECTION OF CLAIMS 17 AND 32 UNDER 35 USC 103(a) AS BEING UNPATENTABLE OVER KAJIYAMA ET AL. (US PAT. NO. 6,552,990, "KAJIYAMA") IN VIEW OF NODA ET AL. (US PAT. NO. 5,153,863, "NODA").

Applicants respectfully traverse the Examiner's 103 rejection, as a prima facie case of obviousness has not been properly established. (MPEP §2142).

The Action admits that Kaiyama does not discuss "a photo-detector comprising a central detecting portion and two peripheral detecting portions, wherein the photo-detector selectively receives the main ray of the first laser beam on the central detecting portion to determine a focus error and to record and/or reproduce the data on/from the first optical disk and receives the sub-rays of the first laser beam on the peripheral detecting portions to determine a tracking error, and the main ray of the second laser beam on the peripheral detecting portions to record and/or reproduce the data on/from the second optical disk and receives one of the two sub-rays on the central detecting portion to determine the focus error and the tracking error on the second optical disk," as recited in claim 17. (Action at page 11).

The Action cites Noda as providing the limitations missing from Kaiyama. (Action at page 12). Noda discusses using a main photodetector 14A-14D and two peripheral photodetectors 14E and 14F differently depending on whether a recording operation or a reproducing operation are being performed using the single light source for the single type of disc.

In contrast, claim 17 recites "**wherein the photo-detector selectively receives the main ray of the first laser beam on the central detecting portion to determine a focus error and to record and/or reproduce the data on/from the first optical disk** and receives the sub-rays of the first laser beam on the peripheral detecting portions to determine a tracking error, **and the main ray of the second laser beam on the peripheral detecting portions to record and/or reproduce the data on/from the second optical disk** and receives one of the two sub-rays on the central detecting portion to determine the focus error and the tracking error on the second optical disk." (Emphasis added). Thus, Noda does not teach using two laser beam sources and then adjusting the detecting portions of a photodetector based on a type of optical disc.

Further, even assuming that a workable system was possible by combining Kaiiyama and Noda, applicant submits that no motivation to combine Kaiiyama with Noda exists. Kaiiyama discusses two light source optical pickups with a diffracting grating around an annular periphery of an optical device and a hologram in the central portion. (See Kaiiyama Abstract). Noda discusses an optical head with a single disc system using a single light source and diffracting the light differently for recording and reproducing. The Action states that replacing the photodetector of Kaiiyama with Noda would have been obvious "because Noda's photodetector arrangement uses a standardized electronic circuit to obtained recorded signals with its servo components at the same time." (see Action at page 13). However, this implies that the photodetector 8 of Kaiiyama is complex and thus a motivation would exist to make such a replacement. However, no such implication exists in Kaiiyama. Indeed, Kaiiyama presents the photodetector 8 as straightforward and only gives a minimal description which works with the other elements of Kaiiyama to processs the reflected signal from recording surface 9a or 99a. (See Kaiiyama col. 8, lines 40-47).

As discussed above in the arguments for allowance of claim 17, Kaiiyama in view of Noda does not teach or suggest a method of "receiving the main ray of the first laser beam on a central detecting portion to determine a focus error and to record and/or reproduce the data on/from the first optical disk; receiving the sub-rays of the first laser beam on peripheral detecting portions to determine a tracking error; receiving the main ray of the second laser beam on one of the peripheral detecting portions to record and/or reproduce the data on/from the second optical disk; and receiving one of the two sub-rays on the central detecting portion to determine the focus error and the tracking error on the second optical disk," as recited in claim 32.

In view of the above, it is respectfully submitted that since prima facie obviousness has not been established, the rejection is overcome and claims 17 and 32 should be allowed.

CONCLUSION.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: June 22, 2004

By: Steven W. Crabb
Steven W. Crabb
Registration No. 46,092

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501